5

ABSTRACT

A program of instructions for the processor which include: receiving an insertion length of a medical instrument inserted in a patient; and determining a distal end location of the instrument at a target site in the patient from the insertion length. The instrument typically has a straight proximal portion and curved distal portion, lies in a single plane and is a rigid guide member. The instrument is typically inserted and then fixed at a pivot axis outside the patient. The pivot axis is generally aligned with an insertion point at which the instrument is inserted into the patient. The program of instructions may include determining a subsequent location of the distal end associated with pivoting about the pivot axis. The program of instructions may include determining a subsequent location of the distal end associated with axial rotation of the instrument, determining a subsequent location of the distal end associated with linear translation along a length axis of the instrument and/or determining a subsequent movement of the distal end in a single plane about the pivot axis. The pivotal axis is typically a reference point used by the program of instructions in determining subsequent movement of the distal end.